DESCRIPTION

Source  E. coli-derived
Val22-Cys167, with an N-terminal Met
Accession # Q544U0

N-terminal Sequence Analysis  Met

Predicted Molecular Mass  16 kDa

SPECIFICATIONS

Activity  Measured in a cell proliferation assay using BaF3 mouse pro-B cells transfected with human Leptin R. The EC_{50} for this effect is 0.075-0.45 ng/mL.

Endotoxin Level  <1.0 EU per 1 μg of the protein by the LAL method.

Purity  >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation  Lyophilized from a 0.2 μm filtered solution in Tris-HCl and NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution  Reconstitute at 1 mg/mL in sterile 20 mM Tris-HCl, pH 8.0.

Shipping  The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage  Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Leptin is a protein product of the mouse obese gene. Mice with mutations in the obese gene that block the synthesis of Leptin have been found to be obese and diabetic and to have reduced activity, metabolism and body temperature. cDNA clones encoding Leptin have been isolated from human, simian, mouse and rat cells. Mouse Leptin shares approximately 96% and 84% sequence identity with the rat and human protein, respectively. Mouse Leptin cDNA encodes a 167 amino acid residue protein with a 21 amino acid residue signal sequence that is cleaved to yield the 146 amino acid residue mature protein. The expression of Leptin mRNA has been shown to be restricted to adipose tissue.

A high-affinity receptor for Leptin (OB-R) with homology to gp130 and the G-CSF receptor has been cloned. OB-R mRNA has been shown to be expressed in the choroid plexus and in the hypothalamus. OB-R has also been identified as an isoform of B219, a sequence that is expressed in at least four isoforms in very primitive hematopoietic cell populations and in a variety of lymphohematopoietic cell lines (1-3). The possible roles of Leptin in body weight regulation, hematopoiesis and reproduction are being investigated.

References: